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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/666,340	09/17/2003	Hisashi Tsukamoto	Q137-US4	8397
31815	7590	09/19/2007	EXAMINER	
MARY ELIZABETH BUSH			WANG, EUGENIA	
QUALLION LLC			ART UNIT	PAPER NUMBER
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			09/19/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	10/666,340	TSUKAMOTO ET AL.
	Examiner Eugenia Wang	Art Unit 1745

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 06 July 2007.
- 2a) This action is FINAL.                            2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 29, 31-33, 71-114 is/are pending in the application.
  - 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 29, 31-33, 71-114 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.
 

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) All    b) Some \* c) None of:
    1. Certified copies of the priority documents have been received.
    2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 6/27/07.
- 4) Interview Summary (PTO-413)  
Paper No(s)/Mail Date: \_\_\_\_\_.
- 5) Notice of Informal Patent Application
- 6) Other: \_\_\_\_\_.

**DETAILED ACTION**

***Response to Amendment***

1. In response to the amendment filed June 27, 2007:
  - a. Claims 84-114 have been added as per Applicant's request. Claims 29, 31-33, and 71-114 are pending.
  - b. The previous 112 rejection has been withdrawn in light of the amendment.
  - c. The previous rejection of record has been withdrawn. A new rejection is made, not fully necessitated by amendment. Thus the action is non-final.

***Information Disclosure Statement***

2. The information disclosure statement filed June 27, 2007 has been placed in the application file and the information referred to therein has been considered as to the merits with the exception of EP 0942484 B1, due to the fact quality of the scanned text is hard to read and close to illegible. For consideration of EP 0942484 B1, Examiner invites Applicant to send a clearer copy.

***Specification***

3. The abstract of the disclosure is objected to because it is longer than 150 words. Correction is required. See MPEP § 608.01(b).

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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4. Claims 29, 31, 32, 71, 76, 79, 80 82-86, 88, 95, 96, 99, 100, 101, 102, 104, 111, 112, and 114 are rejected under 35 U.S.C. 102(b) as being anticipated by US 3510353 (McHenry).

As to claims 29, 76, 82, 84, 100 McHenry teaches an electrochemical cell (fig. 1).

The cell has an electrode assembly comprising negative electrode [19], separator [22], and positive electrode [17] (fig. 1). Furthermore, the combination of the metal tube [12] and plastic tube [13] make up an elongate mandrel, which is mounted on an wire contact [14] (elongate pin). (The opening that the pin (wire [14]) is fitted in constitutes the longitudinal slot of the mandrel (metal and plastic tube [12, 13])). As seen in fig. 1, the positive electrode strip [17] is in electrical contact with wire [17] via tab [18], while the negative electrode strip [19] is insulated from it. The electrode assembly in fig. 1 also shows that the electrode assembly is wound around the pin. It is noted that the electrode strip [17] is in contact with the pin [14], which extends through the mandrel slot (as applied to claim 29) (fig. 1). It is further noted that plastic washer [15] serves as an insulating first end cap that is indirectly on the pin (as it surrounds the mandrel (metal and plastic tube [12, 13], which surrounds the pin (wire [14]))); pin (wire [14]) extends through the plastic washer [15], which is sealed to the pin via plastic tube [13] (as applied to claims 76 and 84). It is finally noted that the mandrel (metal and plastic tubing [12, 13]) is fitted around the pin (wire [14]) in such a manner that the electrode assembly is wound around both the pin and the mandrel (fig. 1).

As to claims 31, 85, and 101, McHenry's battery has wire [14] (pin) extending to positive button [16], where the positive button [16] would be the terminal part of wire [14] (fig. 1; col. 2, lines 28-30). Thus the wire [14] constitutes a portion of the terminal.

As to claims 32, 86, and 102, McHenry's mandrel is crimped onto the pin, as the metal [12] is said to be crimped (fig. 1; col. 2, lines 20-22).

As to claims 71, 88, and 104, McHenry's electrode strips [17, 19] have separator strip [22] to separate them (fig. 1).

As to claims 79, 80, 95, 96, 111, and 112, McHenry's mandrel is defined by the combination of the metal and plastic **tube** [12, 13] (as applied to claims 79, 95, and 111). Furthermore it is seen that the pin is positioned inside of the tube (as applied to claims 80, 96, and 112) (fig. 1).

As to claim 83, 99, and 114, the mandrel (metal and plastic tubes [12, 13]) reinforce is seen to be reinforcing the pin (fig. 1).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.

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2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 33, 87, and 103 are rejected under 35 U.S.C. 103(a) as being unpatentable over McHenry, as applied to claims 29, 84, and 100, in view of US 6387561 (Nemoto et al.).

As to claims 33, 87, and 103, McHenry et al. does not disclose that the mandrel has a channel through which the electrolyte can be injected.

Nemoto et al. teach a battery wherein the top of the pin is used for the injection and/or extraction of electrolyte solution. The motivation for using the pin to injection and/or extract the electrolyte solution would be to suppress splash and to concretely impregnate the electrolyte solution from the end surface at the bottom part of the internal electrolyte body (col. 12, lines 37-46; col. 13, lines 1-9). Therefore it would have been obvious to one having ordinary skill in the art at the time the claimed

invention was made include a channel through the central portion of a battery in order to suppress splash and to help with electrolyte impregnation. (Note: Nemoto et al. does not teach of a mandrel, however, the pin of Nemoto et al. would constitute the combined pin and mandrel [14, 12, 13] of McHenry, as they both form a similar central portion. It would have been obvious for one of ordinary skill in the art to ascertain that a channel through the pin of Nemoto et al. would equate a channel through either the pin or mandrel, or a combination of the two of McHenry.)

6. Claims 75, 92, and 108 are rejected under 35 U.S.C. 103(a) as being unpatentable over McHenry, as applied to claims 29, 84, and 100, in view of US 5755759 (Cogan).

As to claims 75, 92, and 108, McHenry et al. does not teach of using a PtIr alloy as the pin.

Cogan et al. teaches the use of PtIr alloy wire as an electrode wire (col. 3, lines 43-46). The motivation for doing so would be to impart properties of a PtIr alloy, specifically that it can simulate physiological function. Therefore it would have been obvious to one having ordinary skill in the art at the time the claimed invention was made to use a PtIr alloy as the pin in the battery of McHenry in order to impart the property of simulated physiological function so as to make the battery of McHenry usable in implantable medical devices.

7. Claims 74, 91, and 107 are rejected under 35 U.S.C. 103(a) as being unpatentable over McHenry, as applied to claims 29, 84, and 100, in view of US 5501916 (Teramoto et al.).

McHenry et al. does not teach that the tab [18] connecting the wire [14] and positive electrode [17] is welded.

However Teramoto et al. teaches an aluminum hollow tube [48] (an elongate pin), where the positive electrode is welded to the hollow tube via lead [52] (fig. 9; col. 8, lines 47-50). The motivation for welding the positive electrode to the pin is to provide better electrical contact and to provide more mechanical strength for connecting the two. Therefore it would have been obvious to one having ordinary skill in the art at the time the claimed invention was made to weld the tab [18] of McHenry between the wire [14] and positive electrode [17] in a similar manner as Teramoto et al. provides by welding tube [48] to the positive electrode via lead [52] in order to provide mechanical stability of connection between the two as well as for improved electrical contact.

8. Claims 78, 94, and 110 are rejected under 35 U.S.C. 103(a) as being unpatentable over McHenry, as applied to claims 29, 84, and 100, in view of US 5882815 (Tagawa).

As to claims 78, 94, and 110, McHenry et al. does not teach that either titanium or a titanium alloy is used for the mandrel.

However, Tagawa teaches an electrode assembly wherein titanium alloy is used as the center pin, providing the motivation of it being corrosion resistant and lightweight (col. 3, lines 1-12). Therefore it would have been obvious to one having ordinary skill in the art at the time the claimed invention was made to use the titanium alloy of Tagawa as the metal plate [12] portion of the mandrel taught by McHenry in order to improve corrosion resistance and to reduce the weight of the battery.

***Double Patenting***

9. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

10. Claims 29, 84, and 100 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 6, and 7 of U.S. Patent No. 6670071.

The pertinent claims of US 6670071 are listed below:

1. An electric storage battery including:
  - a case comprising a peripheral wall defining an interior volume; and
  - an electrode assembly mounted in said interior volume,
    - said electrode assembly including:
      - an electrically conductive elongate pin; and
      - first and second opposite polarity electrode strips wound together to form a spiral roll, each electrode strip having inner and outer ends, wherein said first electrode strip is electrically coupled to said pin at said inner end; and
    - a hollow elongate mandrel closely fitted around said pin for mechanically reinforcing said pin.

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6. The battery of claim 1 further comprising a first end cap mounted on said pin, said first end cap including an electrical insulator; and wherein

    said pin extends through and is hermetically sealed to said end cap electrical insulator.

7. The battery of claim 1 wherein said mandrel defines an elongate slot; and wherein

Although the conflicting claims are not identical, they are not patentably distinct from each other because claims 1, 6, and 7 in US 6670071 teaches a battery with a wound electrode assembly with a pin and a mandrel wrapped around the pin in such a manner that the mandrel defines an elongate slot (as applied to claims 29, 84, and 100 of the instant application). Furthermore, the battery has an insulated first end cap (as applied to claim 84 of the instant application). Although slight differences within the claim language exists, they would have been obvious over one another to one of ordinary skill in the art. (Note: Some of the dependent claims of US 6670071 read on the dependent claims of the instant application. However, they have been omitted for brevity's sake.)

11. Claims 29, 31-33, and 71-100 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 205-219 of copending Application No. 10/484474.

The claims of 10/484474 corresponding to the independent claims 29, 84, and 100 of the instant application are listed below:

205. (new) The battery of claim 66, wherein

    the first and second electrode strips are wound around a pin with the first electrode strip being electrically coupled to the pin and an elongate mandrel is fitted around the pin.

**210. (new) The battery of claim 205, further comprising:**

**a first end cap mounted on the pin,**  
**the first end cap including an electrical insulator,**  
**the pin extending through the electrical insulator, and**  
**the pin being hermetically sealed to the electrical insulator.**

**211. (new) The battery of claim 205, wherein the mandrel defines an elongate slot and the first electrode strip extends through the slot.**

Although the conflicting claims are not identical, they are not patentably distinct from each other because copending claims 205, 210, and 211 teach a battery with a wound electrode assembly with a pin and a mandrel wrapped around the pin in such a manner that the mandrel defines an elongate slot (as applied to claims 29, 84, and 100 of the instant application). Furthermore, the battery has an insulated first end cap (as applied to claim 84 of the instant application). Although slight differences within the claim language exist, they would have been obvious over one another to one of ordinary skill in the art. (Note: The dependent claims of the copending application read on the dependent claims of the instant application, with slight differences being obvious between the copending application and the instant application being obvious over one another. However, the dependent claims have been omitted for brevity's sake.)

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

12. Claims 29, 31-33, and 71-100 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 43-86 of copending Application No. 10/665687.

The claims of 10/665687 corresponding to the independent claims 29, 84, and 100 of the instant application are listed below:

43. (currently amended) An electric storage battery, comprising:

- a case sealed by a first end cap and a second end cap;
- an electrically conductive terminal pin extending through the first end cap and electrically insulated from the case;
- an electrode assembly disposed within the case, the electrode assembly includes an electrode in electrical communication with the pin and an electrode electrically insulated from the pin;
- a flexible conductive tab electrically coupled to the electrode that is electrically insulated from the pin the second electrode, the tab extending from a first location adjacent to the case past a center point of the second cap to a second location where the tab is physically electrically connected to the second end cap, the tab extending past the center point at a location between the first location and the second location; and  
the tab is not connected to the second end cap from the first location to the second location.

68. (previously presented) The battery of claim 43, wherein the electrodes are electrode strips wound around the pin so as to form a spiral role on the pin.

70. (previously presented) The battery of claim 68, wherein the electrode assembly includes a mandrel mounted on the pin such that the electrodes are wound around the pin and the mandrel.

71. (previously presented) The battery of claim 70, wherein the mandrel includes a longitudinal slot; and wherein

- the electrode in electrical communication with the pin extends through the mandrel slot.

81. (previously presented) The battery of claim 70, wherein the mandrel is fitted around the pin such that the electrodes are wound around the pin and the mandrel.

85. (previously presented) The battery of claim 43, wherein the first end cap includes an electrical insulator, the pin extends through the electrical insulator, and the pin is hermetically sealed to the electrical insulator.

Although the conflicting claims are not identical, they are not patentably distinct from each other because copending claims 43, 68, 70, 71, 81, and 85 teach a battery with a wound electrode assembly wound around both a pin and a mandrel wrapped, where the mandrel defines an elongate slot (as applied to claims 29, 84, and 100 of the instant application). Furthermore, the battery has an insulated cap (as applied to claim 84 of the instant application). Although slight differences within the claim language exist, they would have been obvious over one another to one of ordinary skill in the art. (Note: The dependent claims of the copending application read on the dependent claims of the instant application, with slight differences being obvious between the copending application and the instant application being obvious over one another. However, the dependent claims have been omitted for brevity's sake.)

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

13. Claims 29, 31-33, and 71-100 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 55 and 70-88 of copending Application No. 10/666790.

The claims of 10/666790 corresponding to the independent claims 29, 84, and 100 of the instant application are listed below:

55. (currently amended) An electric storage battery comprising:

a an case hermetically sealed by a first end cap and a second end cap, wherein the said case excludes fill holes and wherein the first end cap excludes fill holes and the second end cap excludes fill holes;

an electrically conductive terminal pin extending through the said first end cap and electrically insulated from the said case;

an electrode assembly disposed within the said case, the electrode assembly includes an electrode in electrical communication with the pin and an electrode electrically insulated from the pin; and

a flexible conductive tab providing electrical communication between the second end cap and the electrode that is electrically insulated from the pin.

72. (previously presented) The battery of claim 70, wherein the electrode assembly includes a mandrel mounted on the pin such that the electrodes are wound around the pin and the mandrel.

73. (previously presented) The battery of claim 72, wherein the mandrel includes a longitudinal slot; and wherein

the electrode in electrical communication with the pin extends through the mandrel slot.

83. (previously presented) The battery of claim 72, wherein the mandrel is fitted around the pin such that the electrodes are wound around the pin and the mandrel.

87. (previously presented) The battery of claim 55, wherein the first end cap includes

an electrical insulator,

the pin extends through the electrical insulator, and

the pin is hermetically sealed to the electrical insulator.

Although the conflicting claims are not identical, they are not patentably distinct from each other because copending claims 55, 72, 73, 83, and 87 teach a battery with a wound electrode assembly wound around both a pin and a mandrel wrapped, where the mandrel defines an elongate slot (as applied to claims 29, 84, and 100 of the instant application). Furthermore, the battery has an insulated cap (as applied to claim 84 of the instant application). Although slight differences within the claim language exist, they would have been obvious over one another to one of ordinary skill in the art. (Note: The dependent claims of the copending application read on the dependent claims of the instant application, with slight differences being obvious between the copending application and the instant application being obvious over one another. However, the dependent claims have been omitted for brevity's sake.)

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

14. Claims 29, 31-33, and 71-100 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-9 and 66-71 of copending Application No. 10/666861.

The claims of 10/666861 corresponding to the independent claims 29, 84, and 100 of the instant application are listed below:

1. (previously presented) An electric storage battery, comprising:
  - a case defining an interior volume; and
  - an electrode assembly in the interior volume, the electrode assembly including
    - an electrically conductive elongate pin, and
    - first and second electrode strips wound around the pin,
    - the first electrode strip being coupled to the pin; and
    - an elongate mandrel fitted around the pin.
6. (previously presented) The battery of claim 1, further comprising:
  - a first end cap mounted on the pin,
  - the first end cap including an electrical insulator,
  - the pin extending through the electrical insulator, and
  - the pin being hermetically sealed to the electrical insulator.
7. (previously presented) The battery of claim 1, wherein the mandrel defines an elongate slot and the first electrode strip extends through the slot.

71. (original) The battery of claim 1, wherein the mandrel is fitted around the pin such that the first electrode strip and the second electrode strip are wound around the mandrel.

Although the conflicting claims are not identical, they are not patentably distinct from each other because copending claims 1, 6, 7, and 71 teach a battery with a wound electrode assembly wound around both a pin and a mandrel wrapped, where the mandrel defines an elongate slot (as applied to claims 29, 84, and 100 of the instant application). Furthermore, the battery has an insulated cap (as applied to claim 84 of the instant application). Although slight differences within the claim language exist, they would have been obvious over one another to one of ordinary skill in the art. (Note: The dependent claims of the copending application read on the dependent claims of the instant application, with slight differences being obvious between the copending

application and the instant application being obvious over one another. However, the dependent claims have been omitted for brevity's sake.)

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

***Allowable Subject Matter***

15. Claims 72, 73, 77, 81, 89, 90, 93, 97, 105, 106, 109, and 113 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 72, 89, and 105 teach that a portion of the electrode strip in communication with the pin is positioned between the mandrel and the pin.

McHenry does not teach the invention of claims 72, 89, and 105. As seen in the figure, the mandrel (metal tube [12] and plastic tube [13]) encompasses the pin (wire [14]). The only way to connect the electrode strip between the pin and mandrel is to do so on the underside of the battery. There is no motivation to do so. Further, if it were done, then it would destroy the reference in the fact that the wound structure as seen in the figure would fail to exist as pictured.

Claims 73, 90, and 106 teach that the electrode strip in electrical communication with the pin includes active material positioned on a substrate, the substrate being positioned between the mandrel and the pin without the active material being positioned between the mandrel and the pin.

McHenry does not teach the invention of claims 73, 89, and 105. As seen in the figure, the mandrel (metal tube [12] and plastic tube [13]) encompasses the pin (wire [14]). As previously mentioned the only way to connect anything between the pin and mandrel is to do so on the underside of the battery. No motivation exists to insert a substrate with active material between the pin and mandrel in such a manner that the active material is not positioned between the mandrel and the pin. Again, as previously mentioned applying the structure where a portion of the electrode assembly is between the mandrel and pin would destroy the reference in the fact that the wound structure as seen in the figure would fail to exist as pictured.

Claims 77, 93, and 109 teach that there is a weld that attaches the mandrel to the pin.

McHenry does not teach the invention of claims 77, 90, and 109. The portion of the mandrel that is next to the pin (wire [14]) is the plastic tubing [13]. One of ordinary skill in the art would not be motivated to weld plastic to a metal wire. There is no motivation is given to remove the plastic tube so that metal tube [13] could be welded to the wire [14].

Claims 81, 97, and 113 that the mandrel has a c-shaped cross-section.

McHenry does not teach the invention of claims 81, 97, and 113. As seen in the figure, the mandrel (metal tube [12] and plastic tube [13]) encompasses the pin (wire [14]). This would give an o-shaped cross section. The tubular mandrel provides mechanical reinforcement for the entire surface area that extends through it. No motivation exists to alter the mandrel such that the cross section would be c-shaped,

and doing so would weaken the mechanical reinforcement. Therefore, one of ordinary skill in the art would not be motivated to alter the mandrel to have a c-shaped cross section.

NOTE: Incorporating the allowable subject matter as indicated above would not overcome the double patenting rejections by themselves. Although for brevity's sake (as mentioned in the double patenting section) rejections of the dependent claims were not shown, the claims of the indicated allowable subject matter would fall under double patenting. For example, with respect to copending application 10/666790, the addition of copending claim 75 would read on claims 72, 89, and 105 of the instant application, the addition of copending claim 76 would read on the claims of 73, 90, and 106 of the instant application, the addition of copending claim 78 would read on claims 77, 93, and 109 of the instant application, and the addition of copending claim 82 would read on claims 81, 97, and 113 of the instant application. The claims pertinent of copending application 10/666790 are listed below for clarity.

75. (previously presented) The battery of claim 72, wherein a portion of the electrode in electrical communication with the pin is positioned between the mandrel and the pin.

76. (previously presented) The battery of claim 72, wherein the electrode in electrical communication with the pin includes active material positioned on a substrate, the substrate being positioned between the mandrel and the pin without the active material being positioned between the mandrel and the pin.

78. (previously presented) The battery of claim 72, wherein a weld attaches the mandrel to the pin.

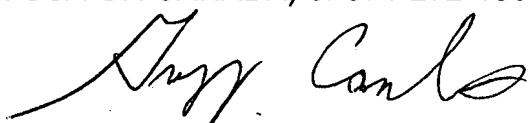
82. (previously presented) The battery of claim 72, wherein the mandrel has a c-shaped cross-section.

**Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eugenia Wang whose telephone number is 571-272-4942. The examiner can normally be reached on 7 - 4:30 Mon. - Thurs., EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



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